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ABSTRACT

This presentation addresses the need to encourage educational facility design innovation, explores reflective practice in the profession of facility design, and discusses what a public sector university-based educational design institute does and what role the institute can play in efforts to encourage innovation in the architectural design field. The vision and goals of Mississippi State University's Educational Design Institute are described, as are what constitutes design innovation and the cultural waves that drive it. Several innovative designs are highlighted. (GR)

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The Challenges of Encouraging Educational Design Innovation

Jeffery A. Lackney R.A., Ph.D.

Invited Luncheon Presentation, Annual Meeting of the Alaska Chapter of the Council of Educational Facility Planners, International (CEFPI), Anchorage, Alaska, Thursday, December 2, 1999

ED 442 258

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I am pleased to be with all of you for a second time today. What I'd like to do this afternoon is talk with you about the challenges of encouraging educational design innovation. I have two objectives for this talk.

First, much of what I'd like to talk about today could be described as reflective practice. Reflective practice, in the spirit of Donald Schon, requires us to critically analyze our work, to uncover and challenge our our assumptions and improve our practice. We are completing our first year of operation and now seems to be a good time to reflect on our work accomplishments. I hope it provides you with some thoughts about your own practice.

Second, I hope to shed some light on what a public sector university-based institute does and what role an Institute can play in efforts to encourage innovation in a field in general.

Background on the Educational Design Institute

EDI is a collaborative initiative between the College of Education and the School of Architecture at Mississippi State University.

The vision of EDI is to promote and encourage the creation of safe, accessible, flexible, and innovative learner-centered environments in collaboration with schools and communities that will challenge and motivate our students minds, strengthen their bodies, and commit them to their communities.

EF 005 726

The Challenges of Encouraging Educational Design Innovation

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Jeff Lackney
Educational Design Institute
Mississippi State University

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EDI has three goals. First, to establish EDI as a collaborative partner for educational facility planning in Mississippi. Second, to establish EDI as the leader in educational design innovation in the South by engaging communities in participatory research projects. And, finally, to establish EDI as a state and national resource for rural schools

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planning and design issues through regional workshops, seminars, conferences, and publications.

EDI is presently working in several school districts conducting educational facility planning services, conducting research with classroom teachers on the role of the physical setting in their instructional designs, conducting research on school design standards, articulating a comprehensive list of educational design principles with the National Clearinghouse for Educational Facilities, and sponsoring conferences, workshops and training sessions within the state of Mississippi.

The Challenge of Promoting Innovative Design

Behind all these activities is our desire for promoting innovative design. We have set for ourselves the task of studying innovation nationally and internationally, sharing those ideas with our region, and if appropriate introducing them in various projects.

What we find of course after we leave our seminars on "21st century educational facilities" is that – surprise, surprise - the concerns of the real world put an abrupt halt on any visions of innovation. Added to this problem is the fact that historically so-called innovations in educational facility design have left bad impressions in the minds of many educational administrators and educators. All I need to do is mention the "O" word – open plan schools – and I get that look! Research was not conducted on open plan schools until after most of them had already been built. I understand Taku Elementary School here in Anchorage has taken steps to close up what was once completely open space like many open schools around the country.

The same may now be happening with the house model. As far as I know, no empirical research has been done on this new model of school house design – we just assume it works and keep building more of them. I know of a half-a-dozen middle schools that have experienced a lack of alignment between the staff organization and the building organization often resulting in a complete rebellion on the part of the staff. So, what do schools do? They maintain the departmental organizational structure in a building designed for an interdepartmental structure. The architect's sales pitch is often that the school is flexible enough to accommodate both structures. This may be true, however, again, we have no empirical research to know if this is true.

These habits of innovation for the sake of innovation are causing many communities to tell their architects "don't you dare experiment on us." That is a direct quote a local architect told me a few months ago when he was preparing to plan a new school in our state.

Embedded in the last few comments are a whole series of presumptions about what innovation is and when it is appropriate. As this talk unfolds I intend to uncover these presumptions one by one and see what implications this analysis might have on how we conduct our practice.

What is Innovation and What Drives It?

I was surprised to find out that the "Mission Statement Book," which focuses on the mission statements of 301 private sector companies, reports that after the words Quality, Service and Value, the word "Innovation" is included in 69 (23%) of the mission statements. Apparently, EDI is not that unique!

So how do we define innovation? Innovation is often equated with being creative, the pursuit of new ideas and methods, a unique solution to a problem, out-of-the-box thinking, a new way of doing things, a new attitude, and a constant striving for quality and excellence, and so on.

For my purposes today I'd like to suggest that innovation is the ability to intentionally change to meet new opportunities. Its probably not enough to have an innovative idea - that idea needs to be communicated and shared so that it can be implemented. Within the context of educational facility planning and design we are interested in studying the ability to which educational institutions can intentionally change to meet new opportunities.

1. Innovation is About Exploring New Opportunities

Meridian, Mississippi

Innovation
exploring new opportunities

Meridian High School

At EDI we started with big ideas. As outsiders, we could see a missed opportunity to integrate the school with its surrounding community. The Mississippi human settlement pattern is in essence a collection of discrete small towns scattered throughout a rural landscape.

The school building is often the largest building and institution within the community. However, we quickly discovered various social and economic disconnects between the school and the community. Schools often act unilaterally. In addition, we saw the possibilities of viewing the entire community as a learning laboratory for students – a wealth of historical material just waiting to be re-discovered. We explored the theoretical possibilities of creating a learning community in Mississippi.

We saw a possibility of exploring the concept with the Meridian Mississippi community – a larger town of about 30,000. We had discussions with the community college president, the school district superintendent, several community organizations and a regional planning group dedicated to building partnerships between various educational groups in the community. Even the city's mayor and MSU's president have had designs on creating an arts education and entertainment center in the downtown. In the meantime, the city had hired an architect to work out a plan for an arts/entertainment district downtown that would include space for educational programs from the school district, the community college and even Mississippi State University. What I find interesting about the Meridian case is that the motivations of all the players seems to be quite different, but the entrepreneurial spirit driving these players is the same - a taste for exploring new opportunities in Mississippi.

There have been two spin offs from these discussions.

First, from these various discussions, we, along with the school district developed a proposal to create a community learning center to foster interagency cooperation. We applied for federal funds as well as local private foundations to get the idea off the ground. Unfortunately, the funding agencies did not see the level of commitment necessary for success.

A second spin off from this work has been EDI's involvement in the Meridian public school's strategic planning process. We have had the opportunity to work with the facilities action team in developing a model for the classroom-of-the-future. Here we had a chance to discuss the latest innovations in educational delivery. Once a bond referendum is passed, we intend to assist in applying the model as appropriate in collaboration with the architectural firm eventually chosen for the project.

2. Innovation is as Much about Looking Back as Looking Forward

In Meridian we were thinking ahead and trying to focus on the future. What we forgot while working in Meridian is that many of the ideas we think are innovative are in fact new versions of older ideas.

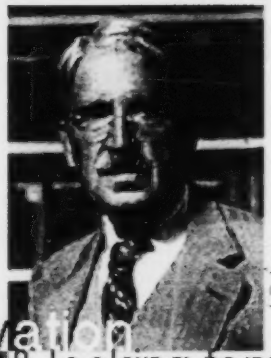
Studio-based learning goes back to ...

*Horace Mann

*Parker School/Quincy System

*John Dewey's Lab School

*William Wirt's Platoon System



John Dewey

Innovation ... & looking forward

Innovation is not always about implementing completely novel ideas. Many of the ideas we have about innovation now such as self-directed learning, individualized instruction, the integrated curriculum, and community schools were developed formally at least 100 years ago, and probably existed informally since the founding of our country. These ideas made a second major appearance 30 years ago with a newly formulated progressive movement organized around the open schools movement. Now these same ideas are again emerging due to the possibilities of information technology that is driving both curricular and instructional change.

At EDI, the challenge for us is reframing these ideas in a form appropriate for today. Much of the hype surrounding innovative ideas in educational design might be averted if more of us studied the history of our own disciplines. From such a study we might actually create something truly innovative.

EDI, along with the College of Education, School of Architecture and several other units on the Mississippi State University campus, and several community colleges around the state, is involved in a newly awarded multi-million federal grant to improve teacher education from higher education down to local education agencies. The new model of teacher education we are proposing will integrate problem-based learning (from the School of Veterinary Medicine) and studio-based learning (from the School of Architecture).

Our role is to provide a comprehensive description of the studio-based model as it is used in architectural education and share our knowledge with the team creating the new teacher education model. This model will then be implemented in local schools through in-service programs.

Studio-based instruction and learning has become a hot topic in K-12 education today. Knowing the origins of studio-based learning in education, as well as in art and architectural education can provide us with a deeper understanding of the purposes and goals of studio-based methods. Much can be gained by educators taking a second look at previous educational system models developed prior to the turn of the century for guidance in translating the new popular studio-based learning model developed in architectural education.

Boyer and Mitgang from the Carnegie Foundation in their recent 1996 book "*Building community: A new future for architectural education and practice*, argue that "Beyond question, the design studio is a model that many other disciplines on campus, as well as elementary and secondary schools, could well profit from" (p.85).

Interestingly, the studio-based model of learning has its origins in the US in public education as far back as Horace

Mann. In many ways, educators can learn much about the applications of studio-based learning from their own history!

A similar model had been experimented with in public education with the Parker School in Quincy, Massachusetts in the late 1800s organized by superintendent Francis W. Parker who advocated a more child-centered approach to education that later became known as the Quincy System. Student interest and motivation were central to this model, as were an integrated curriculum, active learning, learning by doing and expression through the arts. Movement through the system included demonstrated performance, primarily through exhibitions and long-term projects. Small classes and an advisory system enable teachers to know their students well. And teachers design and revise the curriculum to reflect student interests and needs and to promote engagement.

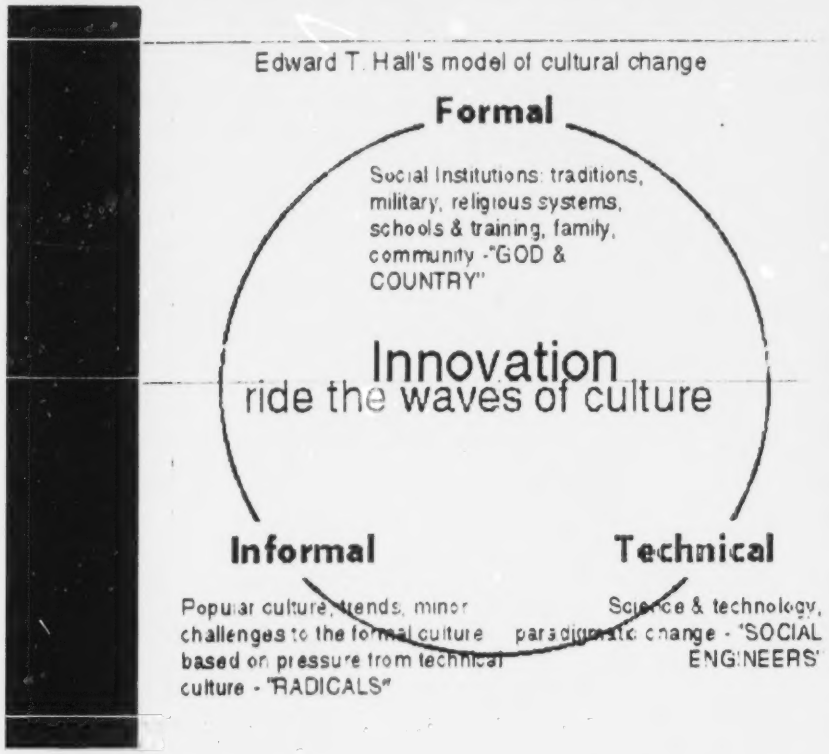
John Dewey was, with the establishment of the Laboratory School in Chicago in late 1800s, exploring some of the same issues connected with studio-based learning. He borrowed from some of the insights of Froebel similar to the Bauhaus of architectural education.

Finally, superintendent William Wirt's "platoon system" at Horace Mann High School in Gary, Indiana in the early 1900s owes much to the ideas of Dewey and the studio-based learning as well. Students spent at least one hour a day in the auditorium giving lectures, questioning one another's presentations, putting on plays, viewing films or reciting poetry. At night, they returned with their families. The Gary schools had adjacent parks, zoos, and a farm where students harvested crops. Students learning printing skills produced school materials. Activity-based learning and the school's role in the community were emphasized.

3. Innovation Requires Us to Ride the Waves of Culture

As Peter Senge, the MIT professor and author of the *Fifth Discipline: The Art and Practice of the Learning Organization*, reminds us, the first principle of systems theory is: The harder you push, the harder the system pushes back. Nowhere is this more true than in school systems.

Alvin Toffler reminds us that cultural waves have a tendency to crash and collide. Change is turbulent. Certainly, education must and is changing as culture changes, but it resists nevertheless. This is normal. This is the role of culture to begin with, to keep things stable during rough times. This is a system trying its best to survive the times. We need to recognize and understand this before we can act appropriately – before we can introduce or advocate for innovation into the system.


Edward T. Hall's model of cultural change
Formal
Social Institutions: traditions, military, religious systems, schools & training, family, community -"GOD & COUNTRY"
Innovation
ride the waves of culture
Informal
Popular culture, trends, minor challenges to the formal culture based on pressure from technical culture - "RADICALS"
Technical
Science & technology, paradigmatic change - "SOCIAL ENGINEERS"

Edward T. Hall, an internationally known comparative anthropologist who has done work in cross-cultural studies, developed a model of culture that explains some aspects of culture change in which he posits there are basically three sectors of any culture: formal, informal and technical. These three cultures in effect influence each other in an ecological manner. We as designers and planners are part of the technical culture seeing trends and creating innovations to respond to these trends. But, once innovations are introduced we find cultural systems are resistant. It doesn't matter what sector of society we are discussing.

We are, as critical theorists call it, "cultural workers" whose job it is to decode the culture and work with existing formal and informal cultures toward change.

For example: Our charge at EDI is to educate school boards and superintendents about best practices in educational facility planning and design. The state legislature has given us funding for three years to do this. So we introducing ourselves to these groups; attending their conferences, visiting their schools, meeting them in their offices, etc. Certainly these groups see some value in focusing on facility issues, and some even support our efforts, but the vast majority are not responsive. To be fair, there are too many other items on their plates. We sent out 1150 surveys to every superintendent and principal in the state and we received 6 back, a return rate of ½ of 1%!

What we have found is that parents and teachers seem to be the real activists in the system. They are the ones affected directly by the system and most likely to advocate for children. We are currently conducting research with over five dozen World Class teachers to explore their explicit use of the physical environment in instructional design.

Teachers generally believe that they have some measure of responsibility, influence, and control over their physical setting. They also believe that the physical setting can have both positive and negative effects on their ability to teach and students' ability to focus on learning tasks. Yet, paradoxically, in our research we have found that many teachers lack adequate knowledge about effectively creating and managing classroom space to support their instructional efforts (e.g., group projects and cooperative learning strategies). Further, educators have disparate perspectives on classroom arrangements. In addition, teachers may have a real or perceived lack of efficacy over their physical classroom. They may expect their school administrators to address these issues through appropriate educational policy. What we hope to accomplish in this research is to improve the environmental competence of teachers – an innovation through professional development where teachers become the designers of their own classrooms.

We have also found that PTA organizations are quite willing to discuss facility-related issues and act upon them in

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the policy arena. We are in the middle of assisting some local groups in drafting legislation targeted towards funding limits in the state.

Clearly, as cultural workers we have an agenda for change and we need to always be cognizant of our agenda and how it matches up with the school cultural climate we are working in. As cultural workers we enter a world of co-evolutionary learning between members of a variety of cultural institutions: schools, communities, families. We must learn to see beyond the project and see how the project fits into this larger scheme of community development.

4. Innovation is About Thinking Big Yet Acting Small

Small changes can produce big results. Well-focused actions can produce significant and enduring improvements. This is what is known as the principle of leverage.

Innovation is not always about implementing radical ideas either. For example, innovation can be training a maintenance staff for the first time to respond to teacher needs and requests so that they can do their work better. This is precisely what has happened with the brief influence of Johnson Controls' facility management services in the Baltimore City Public Schools during a privatization experiment a few years ago. The private company is long gone, but the principals of different schools now fight over these few well-trained custodial staff now. The good news is these Johnson Controls trained custodians are training their staff in a similar manner.

For many smaller districts not accustomed to building programs it is assisting them in understanding the need for an educational planning process to make the best use of their limited construction dollars instead of building more of the same dysfunctional structures. For some schools, creating innovation means finding alternative funding strategies in order to implement simple projects that can make a big difference in the learning that takes place in the school.

We are assisting the vision of Mississippi's 1998 Teacher of the Year at Sudduth Elementary/Middle School in the Starkville school district to obtain state and federal grants to fund the construction of an outdoor learning environment and science laboratory. Her ability to call in favors from local businesses and community organizations has been exemplary.

For some schools, innovation is quite modest. In the case of the West Tallahatchie School District in the Mississippi Delta the superintendent has realized that his district's true mission must be to educate the entire community, not just school-aged children in an effort to increase parent involvement in their children's education. He is attempting to opening up the school to community by providing job training and adult education programs – actions that seem quite ordinary in some districts but which are unprecedented in his district.

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Concluding Remarks

I would like to conclude by suggesting that in the design professions generally we tend to think of innovation - a new way of doing things – as a thing unto itself. Designers are by nature prepared to improve on what has come before. Innovation can take on a life of its own regardless of appropriateness. Taking action within the context of the educational system presents a number of problems in which innovative ideas may not be appropriate or desirable. However, as we are learning at the Educational Design Institute, what we might consider innovative is much broader than we first expected.

Thinking of innovation as the ability to change to meet new opportunities provides a broader lens from which to see the impact of design on the process of education. From what we at EDI have learned as participants in the change process, it has been fruitful to reflect on our role as cultural workers in the educational enterprise. We have become more cognizant of the historical context of our proposed innovations. We recognize that small acts can have significant long-term consequences both desired and unanticipated and are prepared to explore those possibilities with educators. In addition, the success of this effort owed much to the leadership and organizational skills of a few dedicated people.

Finally, we recognize that in order to improve learning environments, and be successful in fostering innovative ideas requires a long-term persistent presence in a community of learners. This presence does not stop with the planning, design and construction of the building, but continues well into occupancy and extends to the development of long-term partnerships. It is probably this last form of community service – the formation of partnerships – that distinguishes the potential value of Institutes like EDI. But, we'd like to encourage you as design professionals to do what you can in this regard. In this way, EDI will be in a position to fulfill its mission of advocating for innovation in educational design.

The Challenges of Encouraging Educational Design Innovation

Jeff Lackney
Educational Design Institute
Mississippi State University

Objectives

- Reflective practice
- Role of Institute in encouraging innovation

Our Vision

In collaboration with students, parents, educators, administrators, school boards and communities,...

...promote and encourage the creation of innovative learner-centered environments...

...that will challenge and motivate our students minds, strengthen their bodies, and commit them to their communities.

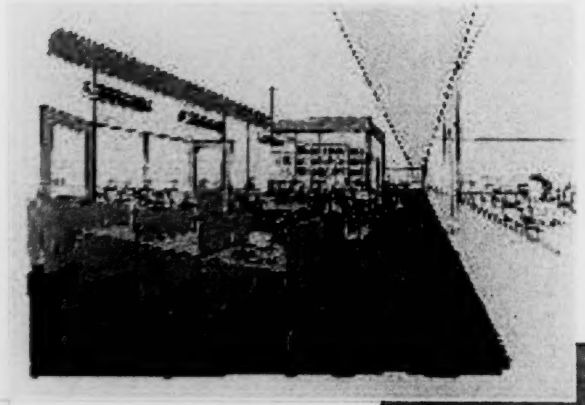
Our Goals

1. Establish EDI a collaborative partner for educational facilities planning in the South

2. Establish EDI as the leader in educational design innovation in the South by engaging communities in participatory research projects

3. Establish EDI as a national resource for rural schools planning & design issues through regional workshops, conferences & publications

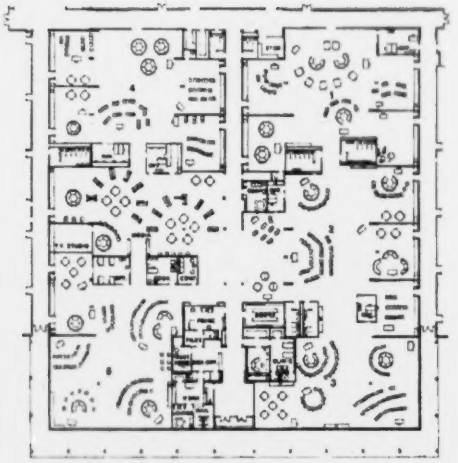
Innovation



Meridian, Mississippi

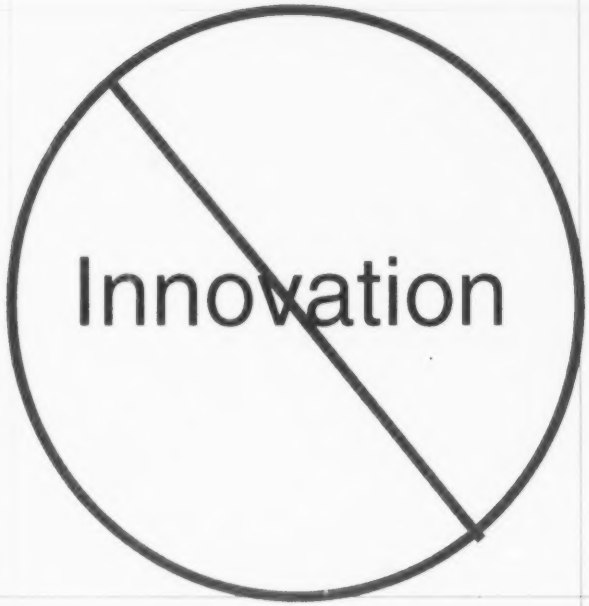
Innovation

The Open Plan School



Innovation

The House Plan



"Don't you dare experiment on us!"

Innovation

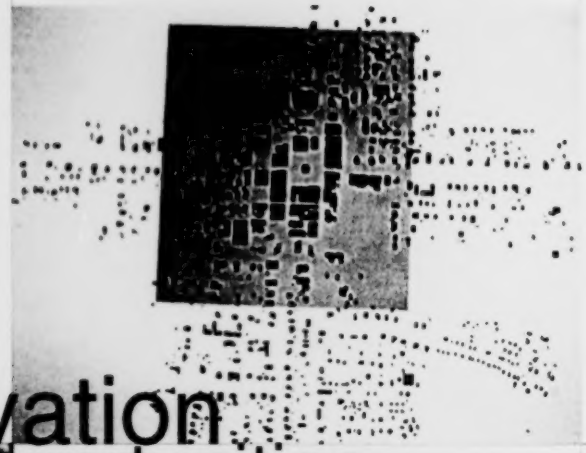
What is innovation?
What drives it?
How do we define it?

Innovation

...the ability to intentionally change to meet new opportunities

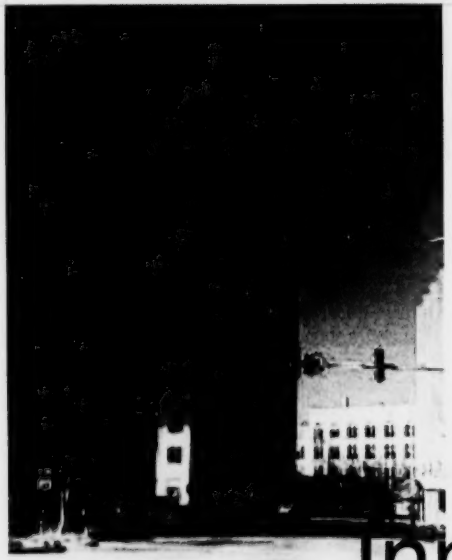
Innovation
exploring new opportunities

Oxford, Mississippi



Innovation
exploring new opportunities

Oxford Town Square



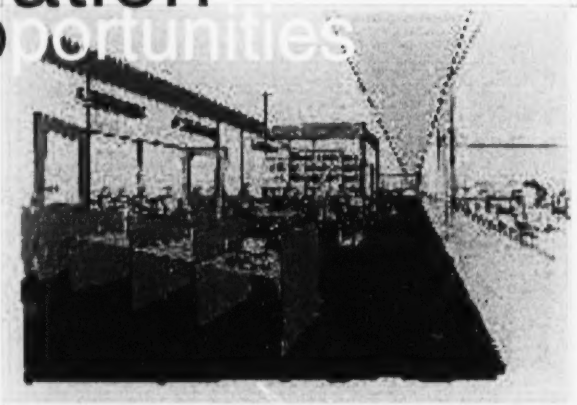
Meridian, Mississippi

Innovation
exploring new opportunities

Meridian High School

Innovation

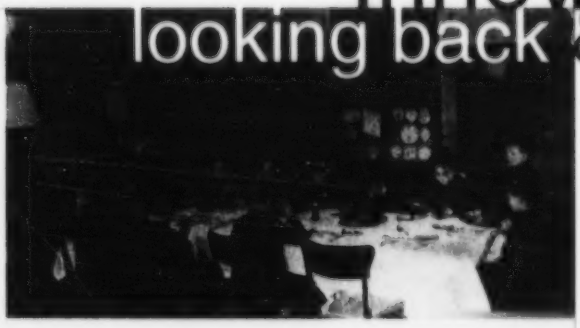
exploring new opportunities



Meridian Public Schools

Innovation
looking back & looking forward

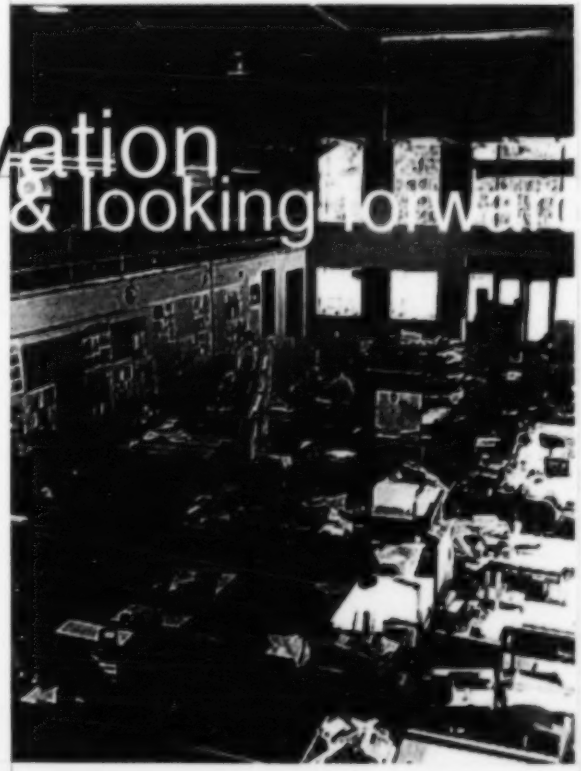
Innovation
looking back & looking forward



Integrated curriculum

MSU School of Architecture

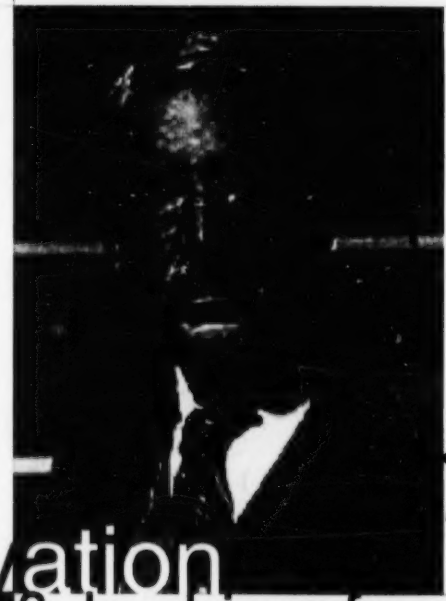
Innovation
looking back & looking forward



Studio-based instruction

Studio-based learning goes back to....

* Horace Mann
* Parker School/Quincy System
* John Dewey's Lab School
* William Wirt's Platoon System



John Dewey

Innovation
looking back & looking forward

Hands-on learning

Innovation
ride the waves of culture

LIFE Classic Photographs c1994

Innovation
ride the waves of culture

"The harder you push, the harder the system pushes back"

Alvin Toffler

Innovation
ride the waves of culture

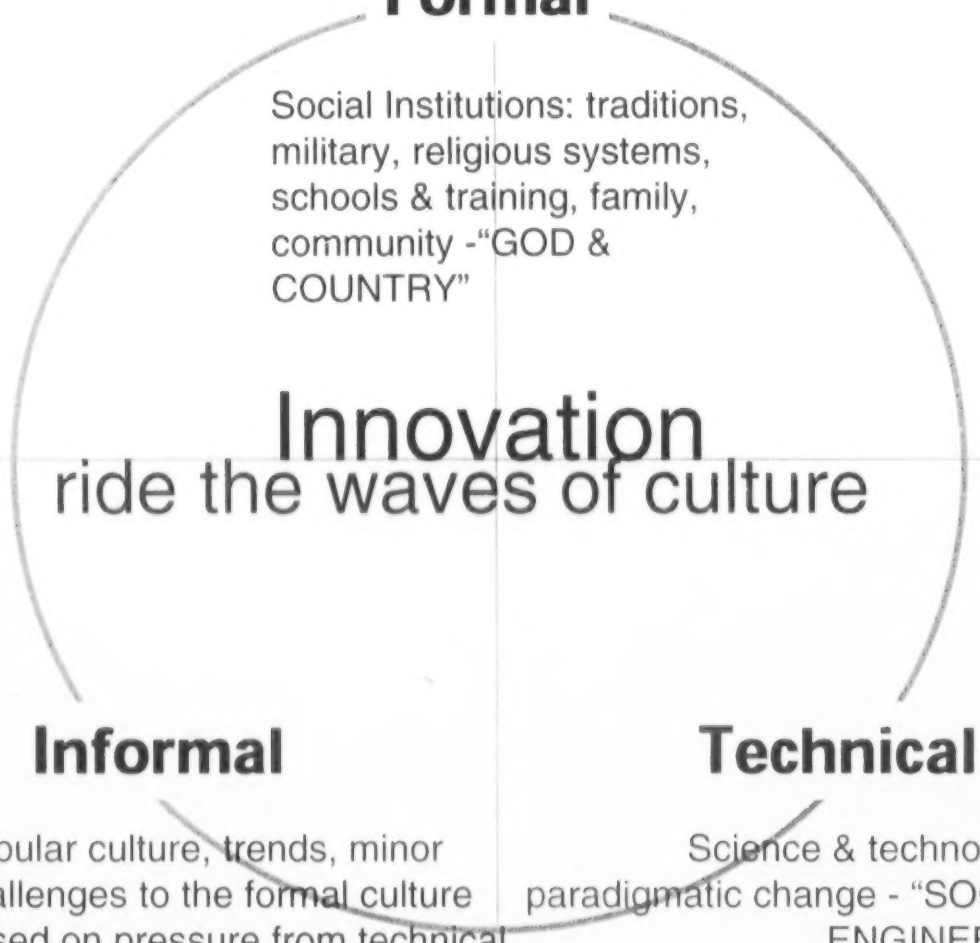
The Third Wave

First Wave (Agricultural)

Second Wave (Industrial)

Third Wave (Information)

Edward T. Hall's model of cultural change


Formal
Social Institutions: traditions, military, religious systems, schools & training, family, community -"GOD & COUNTRY"
Innovation
ride the waves of culture
Informal
Popular culture, trends, minor challenges to the formal culture based on pressure from technical culture - "RADICALS"
Technical
Science & technology, paradigmatic change - "SOCIAL ENGINEERS"

We as educational professionals…are on the edge of a CULTURAL WAR...

Innovation
ride the waves of culture

Dewey

- ☑ formative evaluations
- ☑ developmental assessments
- ☑ multiple measures of student performance
- ☑ criterion reference testing
- ☑ contextualize analyses of problems & learning
- ☑ portfolio assessment

VS

Thorndike

- ☑ summative evaluations
- ☑ high-stakes testing
- ☑ single measures of performan
- ☑ norm reference testing
- ☑ standardized testing
- ☑ external evaluation of performance

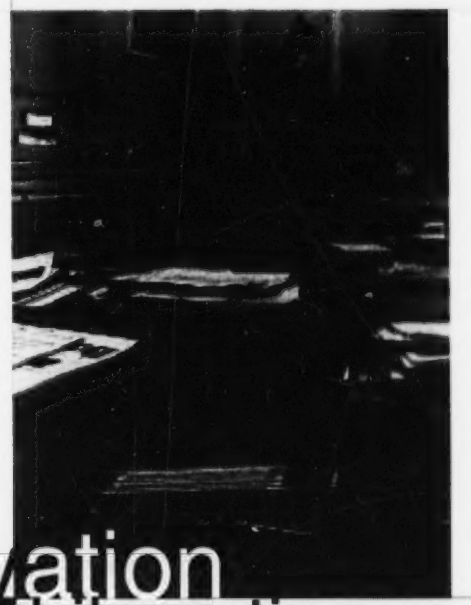
State Legislature
State Board of Education
School Board Members
Superintendents
Administrators
Principals
Teachers
Parents
Students
Innovation
ride the waves of culture

Innovation
ride the waves of culture

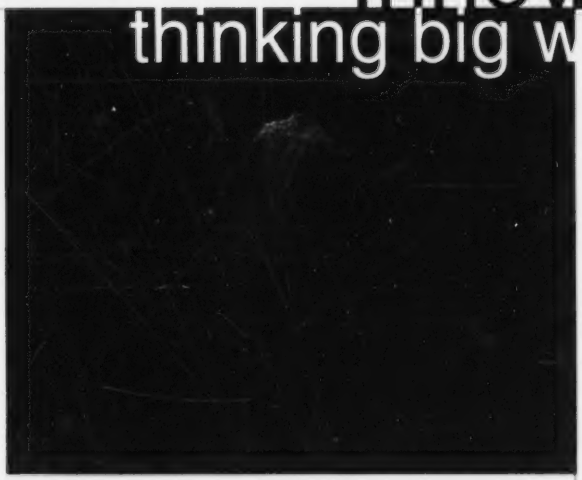
Environmental competence

Innovation
thinking big while acting small

Talking once again
to physical plant



Innovation
thinking big while acting small



Response time: 10 minutes

Innovation
thinking big while acting small

Sudduth Elem/Middle
Starkville, Mississippi

Innovation
thinking big while acting small

West Tallahachie School District
Webb, Mississippi

Innovation

Innovation

exploring new opportunities
looking back & looking forward
ride the waves of culture
thinking big while acting small

The Challenges of Encouraging Educational Design Innovation

Jeff Lackney
Educational Design Institute
Mississippi State University

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